



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,358	03/05/2007	Frank L. Rees	Greene-P1-04	1708
7590 Peter K Trzyna P O Box 7131 Chicago, IL 60680-7131		EXAMINER LOBO, IAN J		
		ART UNIT 3662		
		MAIL DATE 06/25/2008		
		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/580,358

**Applicant(s)**

REES, FRANK L.

**Examiner**

Ian J. Lobo

**Art Unit**

3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-236 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-236 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/55/08)  
Paper No(s)/Mail Date \_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

This application contains claims directed to the following patentably distinct species of the claimed invention.

1. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1, 115, 116 and 230 appear to be generic.

- I. Embodiment wherein the step of and means for identifying the object includes forming an image of the object.
- II. Embodiment wherein the step of and means for identifying a material of the object includes comparison of wavelets.
- III. Embodiment wherein the step of and means for receiving includes receiving secondary wavelets.
- IV. Embodiment wherein the step of and means for directing includes manipulating the beamwidth of the waveform.
- V. Embodiment wherein the step of and means for identifying the object includes processing.

2. Upon election of Species I above, the Applicant is further required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which

Art Unit: 3662

the claims shall be restricted if no generic claim is finally held to be allowable.

Currently, claims 1, 115, 116 and 230 appear to be generic.

A. the step of and means for identifying wherein the object is a weapon.

B. the step of and means for identifying wherein the object is a radioactive substance.

C. the step of and means for identifying wherein the object is an explosive.

D. the step of and means for identifying wherein the object is a biological material.

E. the step of and means for identifying wherein the object is a chemical.

F. the step of and means for identifying wherein the object is a drug.

G. the step of and means for identifying wherein the object is a land mine.

H. the step of and means for identifying wherein the object is an underwater mine.

I. the step of and means for identifying wherein the object is an archeological site.

J. the step of and means for identifying wherein the object is a pipe.

K. the step of and means for identifying wherein the object is an underground composition.

Art Unit: 3662

- L. the step of and means for identifying wherein the object is a hydrocarbon.
- M. the step of and means for identifying wherein the object includes forming a land seismographic stratification image.
- N. the step of and means for identifying wherein the object includes forming a marine water stratification image.
- O. the step of and means for identifying wherein the object includes an element.
- P. the step of and means for identifying wherein the object includes a molecule.
- Q. the step of and means for identifying wherein the object includes an isotope.
- R. the step of and means for identifying includes determining an object is present.
- S. the step of and means for identifying includes determining an object is not present.

3. Upon election of Species IV above, the Applicant is further required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1, 115, 116 and 230 appear to be generic.

Art Unit: 3662

- A. the step of and means for directing includes directing the pulse at an object concealed in a container.
- B. the step of and means for directing includes directing the pulse at a piece of luggage.
- C. the step of and means for directing includes directing the pulse at a motor vehicle
- D. the step of and means for directing includes directing the pulse at a watercraft.
- E. the step of and means for directing includes directing the pulse at an aircraft.
- F. the step of and means for directing includes directing the pulse at a nuclear reactor.
- G. the step of and means for directing includes directing the pulse at a human.
- H. the step of and means for directing includes directing the pulse at a building.
- I. the step of directing includes shaping the acoustic waveform into a Gaussian envelope.
- J. the step of and means for directing includes directing from a hovercraft.
- K. the step of and means for directing includes directing from a drone.
- L. the step of and means for directing includes directing from a buoy.

Art Unit: 3662

- M. the step of and means for directing includes directing from a hand-held device.
- N. the step of and means for directing includes directing from a toll booth.
- O. the step of and means for directing includes directing from a passage-way device.
- P. the step of and means for directing includes directing is carried out in the frequency range of 40-80 KHz.
- Q. the step of and means for directing includes directing is carried out in the frequency range of 0-40 KHz.
- R. the step of and means for directing includes directing is carried out in the frequency range of 2-4 KHz.
- S. the step of and means for directing includes directing is carried out in the frequency range of 909-1091 Hz.
- T. the step of and means for directing includes directing is carried out in the frequency range of 2.5-7.5 Hz.
- U. the step of and means for directing includes producing the waveform with a transducer.
- V. the step of and means for directing includes producing the waveform with a far-field projector.
- W. the step of directing includes contiguous filters.

4. Upon election of Species III above, the Applicant is further required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1, 115, 116 and 230 appear to be generic.

- A. the step of and means for receiving includes discerning the non-linear effect as associated with elastic scattering.
- B. the step of and means for receiving includes discerning the non-linear effect as associated with inelastic scattering.

5. Upon election of Species III(5)(A) above, the Applicant is further required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1, 115, 116 and 230 appear to be generic.

- A. the step of and means for discerning includes discerning a ratio of a nonlinear coefficient to a bulk modulus.
- B. the step of and means for discerning includes comparing the secondary wavelet with a wavelet standardized to air.
- C. the step of and means for discerning includes comparing the secondary wavelet with a wavelet standardized to water.
- D. the step of and means for discerning includes comparing the secondary wavelet with a wavelet standardized to land.



6. Upon election of Species V above, the Applicant is further required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1, 115, 116 and 230 appear to be generic.

- A. the step of and means for processing includes discriminating a distortion of a secondary wavelet.
- B. the step of and means for processing includes characterizing the distortion.
- C. the step of and means for processing includes separating elastic scattering and inelastic scattering.
- D. the step of and means for processing includes processing the wavelets to form pixels.

7. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include

all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

8. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian J. Lobo whose telephone number is (571) 272-6974. The examiner can normally be reached on Monday - Friday, 6:30 - 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H. Tarcza can be reached on (571) 272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Ilan J. Lobo/  
Primary Examiner,  
Art Unit 3662